PROPOSED DESIGNATION OF NEOTYPE FOR *TURBO TROCHIFORMIS* BORN, 1778—*TROCHUS CONCHYLIOPHORUS* BORN, 1780

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The proposed designation of a neotype for *Turbo trochiformis* Born, 1778—*Trochus conchyliophorus* Born, 1780, is in connection with revisory work of the family-group Xenophoridae for the Treatise of Invertebrate Paleontology and in connection with monographic studies on the fossil Mollusca of the Eocene of southern United States, particularly those of the Ocala group, upper Eocene of Florida. In that fauna several new species of *Xenophora* are abundantly and unusually preserved. I have been investigating the history and problems of nomenclature of the taxa of the family-group Xenophoridae for over seven years in an endeavour to provide all data pertinent to the intricacies involved. The material is in manuscript to be published in Palaeontographica Americana, volume 4, No. 31, as well as in the Treatise of Invertebrate Paleontology.

Because of my inquiries in 1955 to the Naturhistorisches Museum in Wien, Austria (depository of Musei Caesarei Vindobonensis), regarding the original specimen of *Turbo trochiformis* Born, 1778. *Trochus conchyliophorus* Born, 1780, it became known that the type-specimen is not in existence (3 January 1956, per com. F. Bachmayer, see copy of published letter in Palmer, [ZNS 1483] data to Inter. Com. Zool. Nomen.).

Dr. Bachmayer searched the collection upon which Born based his descriptions of 1778 and 1780 and in 1956 wrote that the type was not present. Dr. Bachmayer also stated that the absence was marked by a pencilled note in the book (" Das ist auch im Buche mit Bleistift wahrschienlich von Frederick Brauer vermerkt "), possibly by Brauer, who wrote on the collection in 1878. The conclusion must be that the original shell or shells does or do not exist. There is no other collection in which an original specimen could exist. (Art. 75(c)(3)). No syntypic specimens are found from which a lectotype could be selected (Art. 74).

Dr. Bachmayer (per com. 3 January 1956) wrote that there was a specimen in the zoological collections [Naturhistorisches Museum, Wien] which agrees well with the illustration by Born, 1780, pl. 12, figs. 21, 22. The habitat in Born, 1780 is " Oceano Americano ". Because there is no other living species of *Xenophora s.s.*, in the ocean of America known at the time of Born except the West Atlantic, *X. trochiformis* (Born)—*X. conchyliophorus* (Born), the shell, spoken of by Bachmayer as agreeing with the illustration Born, 1780, pl. 12, figs. 21, 22 and is in the zoological collection in the Naturhistorisches Museum, would satisfy the original type-locality. The illustration in Born, 1780, pl. 12, figs. 21, 22, well displays the characters by which the species could be recognized.

Further verification that the original specimen or specimens of *Turbo trochiformis* Born—(*Trochus conchyliophorus* Born) is or are lost was received from Dr. Oliver E. Paget, Zoologische Abteilung, Naturhistorisches Museum, Wien, Austria (per com. Dec. 13, 1962). To quote from Dr. Paget's letter, " In regard to this [specimens of *Xenophora trochiformis* (Born)] I have to mention that the type-specimen of Born got lost as so many others did during the 200 years of storage here in the Museum . . . You certainly know the paper of Brauer [*Kais. Akad. Wissenschaften*, Math.—natur. Klasse, Sitz., vol. 77, abt. 1, pp. 117–192, 1878] one of my predecessors in this Department and who published the list of ' Born Types ' still present at the Museum in 1878 and at that time quite a number was already missing. And this number increased since 1878 and quite a number of specimens, which Brauer still found in the Collection, are missing."

Six specimens from the Zoological Department, Naturhistorisches Museum, Wien were sent to the writer. One I have selected as neotype and photographs of the shell are shown on Plate 2. The shell measures 40 mm., greatest diameter, without including the extraneous material; 31 mm., height, including cemented fragments on the apex. Besides the fragments of shells and bits of rock cemented to the specimen, there is a well-preserved entire shell of *Conus jaspideus* Gmelin, a complete well-preserved valve of *Anadara notabilis* (Roeding), and a nearly complete valve showing coloration of *Arca zebra* Swainson. These species are typical of the southern Florida-Carribean area, although *A. zebra* extends north to North Carolina. The region indicated is that of the habitat of *Xenophora trochiformis* (Born).

The specimen in the zoological collection of the Naturhistorisches Museum, Wien, Austria, is designated as the neotype because: (1) that Museum contains the collection studied, described, and illustrated by Born, 1778 and 1780 as Musei Caesarei Vindobonensis and hence, a specimen in that Museum would be a proper shell to be so designated, and that Museum would be the appropriate depositary for the type. The Naturhistorisches Museum certainly qualifies as a recognized scientific institution of long and established reputation.

(2) In 1943, Clench & Aguayo (*The Genera Xenophora and Tugurium in the Western Atlantic*, Johnsonia, No. 8, 6 pp., illustr.) in monographing the xenophorids of the Western Atlantic coast stated for *Xenophora trochiformis* Born, 1778, " the type figure is that of Born given above " [Born, 1780, pl. 12, figs. 21, 22]. At that time Clench & Aguayo (1943) thought, without verification, that " Born specimens are in the Vienna Museum ". By the present designation, I am making the selection coincide with that of Clench & Aguayo, 1943. Theirs was the only previous statement of type. Clench & Aguayo recognized the priority of *Turbo trochiformis* Born, 1778, over *Trochus conchyliophorus* Born, 1780.

(3) To establish the binomen *Turbo trochiformis* Born, 1778 by designating a type-specimen (neotype). The binomen *Turbo trochiformis* [*Xenophora*] has been used to stand for the species by scholars in monographic research on the genera of the Xenophoridae. Chief and standard among these are: Fischer, P., 1876 (1880) (*Species gen. et icon. des Coquilles Vivantes* . . . cont'd of Kiener, vol. XI); Sacco, 1896 (*I Molluschi dei Terreni Terziarii del Piemonte a della Liguria*, pt. XX); Thiele [1929] (1931) (*Handbuch der systematischen Weichtierkunde*); Clench & Aguayo, 1943 (*The Genera Xenophora and Tugurium in the Western Atlantic*, Johnsonia, No. 8).

Therefore, according to the rules, Art. 75, I am designating the following: Specimen 74.12, Zoological Department, Naturhistorisches Museum, Wien, Austria, as the neotype of *Turbo trochiformis* Born, 1778 (Index Nat. Mus. Caes. Vindo., p. 355) (*Trochus conchyliophorus* Born, 1780, Test. Mus. Caes. Vindo., p. 333). Living. " Oceano Americano ". The locality of the neotype of *Turbo trochiformis* Born is West Indies.

FURTHER COMMENTS ON THE NAME OF THE TYPE-SPECIES OF *XENOPHORA* FISCHER VON WALDHEIM, 1807

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In a petition proposing that the family-group name XENOPHORIDAE Deshayes, 1864, be preserved (1962, *Bull. zool. Nomencl.* **19**: 115–116), Dr. K. V. W. Palmer proposed also that the name *Turbo trochiformis* Born, 1778, be placed on the Official List of Specific Names in Zoology as the name of the type-species of the genus *Xenophora* Fischer von Waldheim, 1807. In her petition, Dr. Palmer did not explain why she made the statement that *Trochus conchyliophorus* Born, 1780, is a junior subjective synonym of *Turbo trochiformis* Born, 1778, and why the latter name should pertain to a species of *Xenophora*.